

### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of producing a nanomaterial, comprising:

(i) forming a mold ~~by a lithographic method~~ on a solid substrate having a surface coated with a resist material containing a hydroxyl group or a carboxyl group, the mold being a film made from the resist material, the film having a recessed pattern formed by a lithographic method,

(ii) forming a metal oxide thin film or an organic/metal oxide composite thin film on the formed mold, and

(iii) removing the formed mold to form a metal oxide nanostructural body or an organic/metal oxide composite nanostructural body having a shape replicated or transcribed from the recessed pattern of the film, and further,

between (i) and (ii), activating the mold by oxygen plasma treatment or ozone oxidation treatment,

wherein the following processes are conducted at least once in (ii):

(a) bringing a metal compound or a combination of an organic compound and a metal compound into contact with the forming surface, the metal compound and the combination of an organic compound and a metal compound having groups capable of conducting condensing reaction with hydroxyl groups or carboxyl groups which are present at the forming surface and forming hydroxyl groups by hydrolysis, and

(b) hydrolyzing the metal compound present at the forming surface to obtain a metal oxide.

2. (Cancelled)

3. (Previously Presented) The production method according to Claim 1 comprising removing a portion corresponding to an organic compound contained in the organic/metal oxide composite thin film.

4. (Previously Presented) The production method according to Claim 1 comprising separating the solid substrate or the solid substrate and the mold, and the metal oxide nanostructural body or the organic/metal oxide composite nanostructural body.

5. **(Previously Presented)** The production method according to Claim 3, comprising separating the solid substrate or the solid substrate and the mold, and a structural body removed with a portion corresponding to the organic compound contained in the organic/metal oxide composite thin film.

6. **(Previously Presented)** The production method according to Claim 1, comprising covering at least a portion of the metal oxide nanostructural body, the organic/metal oxide composite nanostructural body, or the structural body removed with a portion corresponding to the organic compound contained in the organic/metal oxide composite thin film.

7. **(Cancelled)**

8. **(Previously Presented)** The method according to Claim 1, wherein a mold comprising an organic compound is used as the mold.

9. **(Previously Presented)** The method according to Claim 1, wherein removal of the mold, the polymeric thin film and/or the organic compound contained in the organic/metal oxide composite thin film is conducted by at least one of treating methods selected from plasma, ozone oxidation, leaching and baking.

10. **(Withdrawn)** A nanomaterial having a structure removed with a portion corresponding to a mold from a structural body in which a mold, a metal oxide thin film, or an organic/metal oxide composite thin film are formed in this order on a solid substrate.

11. **(Withdrawn)** A nanomaterial having a structure in which a portion corresponding to a polymeric thin film or a mold and the polymeric thin film is removed from a structural body in which the mold, the polymeric thin film, and a metal oxide thin film or an organic/metal oxide composite thin film are formed in this order on a solid substrate.

12. **(Withdrawn - Previously Presented)** The nanomaterial according to Claim 10, having a structure removed with a portion corresponding to an organic compound contained in the organic/metal oxide composite thin film.

13. **(Withdrawn - Previously Presented)** The nanomaterial according to Claim 10, having a structure in which the solid substrate is separated.

14. **(Withdrawn - Previously Presented)** The nanomaterial according to Claim 11 having a structure in which the solid substrate and the mold are separated.

15. **(Withdrawn - Previously Presented)** The nanomaterial according to Claim 13 having a structure in which at least a portion of the metal oxide nanostructural body, the organic/metal oxide composite nanostructural body, or a structural body removed with a portion corresponding to an organic compound contained in the organic/metal oxide composite thin film is removed is covered with an organic compound layer.

16. **(Withdrawn - Previously Presented)** The nanomaterial according to Claim 10, wherein removal of mold, the polymeric thin film and/or the portion corresponding to the organic compound contained in the organic/metal oxide composite thin film is conducted by at least one of treatments selected from the group consisting of plasma, ozone oxidation, leaching and baking.

17. **(Withdrawn - Previously Presented)** A nanomaterial obtained by the method according to Claim 1.

18. **(Withdrawn - Previously Presented)** A self-sustainable nanomaterial consisting of the nanomaterial according to Claim 10.

19. **(Cancelled)**

20. (New) The production method according to claim 1, wherein the process (a) is carried out by a dipping method.

21. (New) The production method according to claim 1, wherein a width of the recessed pattern falls within a range from several tens of nanometers to several micrometers.